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DESIGN

# Green SMU Engineering Building Is Teaching Tool

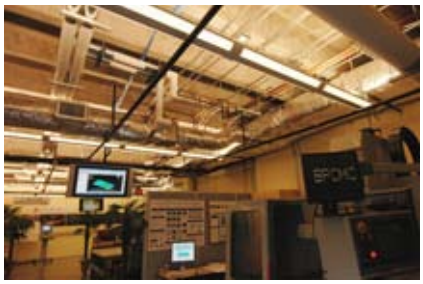
*by Tracy Ostroff*

SMU's traditional Georgian red-brick style created both a rigorous challenge and an opportunity for the designers and campus planners, says Hahnfeld, Hoffer, & Stanford Principal Robert Ayers, AIA. The aesthetic constraints invited innovative approaches, including large windows and a centralized three-story natural light column for maximum daylight. The natural light will infuse all building areas, with the exception of the basement labs, Ayers says. Ayers notes that the building recycles water from the university's HVAC system and includes waterless urinals that annually save 40,000 gallons each. To emphasize the point that the water is being harvested and reused to water plants and for flushing in the restroom facilities, the liquid is tinted. (After some discussion, they decided on aquamarine.)

Nearly all of the building materials came from within a 500-mile radius of SMU, and more than 75 percent of the construction waste was recycled rather than ending up in a landfill. It includes more than 30 miles of data wiring, two distinct water systems, and the latest in high-tech research equipment.

## A building that teaches

The building's adherence to the campus's vernacular is a source of pride at SMU. "You can really implement almost any kind of architecture and design and still build a highly efficient, sustainable facility. That's probably the greatest national contribution this building has made from its concept through its completion," says SMU Dean Geoffrey Orsak, PhD. Orsak says visitors have trouble figuring out which are green design elements and which are just plain design. "To get to the LEED Gold level, you have to do hundreds of things correctly; there are about five or six of them that we use all the time to get people's imagination and then we can start digging in deeper. It really does then become the best teaching tool that we have."



The building also becomes one with SMU engineering coursework. "We use this facility in many of our courses as the laboratory itself. Every element of this building is a teaching element, from the selection of materials that we've used to the way the water is reclaimed and recycled and energy is conserved; even to how it fits on the site. We've been working with our faculty to understand all the dimensions of the facility fully so they can best integrate it into their courses . . . It's one of those very rare occasions where the walls really do talk," Orsak says. "You see a lot of fingerprints all over the building, which is a great sign that people are engaged with the facility."

## Costs and benefits

Meeting the LEED criteria added about 3 percent to the construction costs of the 56,700-square-foot facility. Orsak says the $16-million building is already reaping energy savings, and he and his engineering and facility management colleagues continually monitor building performance data. All future new construction will be built to LEED-certification requirements, he says.

The engineers built a tremendous amount of instrumentation into the facility so they could track almost every operational detail in the building at any given time, making the data collected available to the students. "We track that not only from an educational point of view, but an operational point of view because we like to be able to report the level of water and energy savings. We even track how much sick time employees are using relative to other older buildings on campus. The whole building itself is not only a laboratory, but it is the experiment itself," Orsak enthuses.

**Reference:**
Hahnfeld Hoffer Standford [www.hahnfeld.com] received the Texas Society of Architects Firm Award in 1997.

In addition to other major donors, including the building namesake J. Lindsay Embrey, an SMU alum, the Kresge Foundation has made a commitment of up to $850,000 to the Embrey Building. This includes a $600,000 challenge grant contingent on SMU's success in completing funding for the $15.9 million building by December 31, 2006, while also doubling the number of donors contributing to the project.